

R E P O R T R E S U M E S

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INFORMATION RETRIEVAL CENTER ON THE DISADVANTAGED, YESHIVA UNIVERSITY. THE STATUS OF RESEARCH RELATED TO THE EDUCATION OF THE DISADVANTAGED. (TITLE SUPPLIED).

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DESCRIPTORS- *EDUCATIONAL RESEARCH, *DISADVANTAGED YOUTH, EDUCATION, INTELLIGENCE TESTS, COGNITIVE PROCESSES, PSYCHOEDUCATIONAL PROCESSES, ACHIEVEMENT, EDUCATIONAL PLANNING, INTELLIGENCE, SOCIOECONOMIC STATUS, SELF CONCEPT, DEVELOPMENT, ETHNIC STATUS, TEACHER EDUCATION, ACADEMIC PERFORMANCE, LEARNING, SOCIAL CLASS, INTERACTION, EDUCATIONAL STRATEGIES, MOTIVATION, ASPIRATION,

THIS REVIEW OF RESEARCH NOTES THAT THE EDUCATIONAL HANDICAPS OF THE DISADVANTAGED HAVE NOT BEEN CONCEPTUALIZED ADEQUATELY, IN PART BECAUSE THE DISADVANTAGED MISTAKENLY HAVE BEEN CONSIDERED A HOMOGENEOUS GROUP. SO FAR, THERE HAS BEEN NO STUDY OF THE DIALECTICAL RELATIONSHIP OF THE DISADVANTAGED LEARNER'S COGNITIVE PROCESSES, AFFECTIVE MECHANISMS, AND ACHIEVEMENT SYSTEMS, WHICH TOGETHER MAKE UP THE TEACHER-LEARNING PROCESS. AN ANALYSIS OF STUDIES OF (1) THE RELATIONSHIP BETWEEN INTELLIGENCE AND SOCIOECONOMIC STATUS OR ETHNICITY, (2) INTELLIGENCE AS AN INTERACTIVE PROCESS, AND (3) THE RELATIONSHIP BETWEEN INTELLIGENCE AND ACADEMIC PERFORMANCE, ILLUSTRATES THAT SUCH RESEARCH ON THE STATIC MEASURES OF FUNCTION AND STATUS IS INADEQUATE TO EXPLAIN FULLY THE LEARNING PROBLEMS OF THE DISADVANTAGED. RATHER, PROCESS ANALYSIS AND INTERACTION STUDIES OFFER THE MOST MEANINGFUL PATHS FOR DEVELOPING INTERVENTION PROCEDURES. A SURVEY OF THE WELL-KNOWN RESEARCH ON THE AFFECTIVE DEVELOPMENT OF LOWER-CLASS CHILDREN SHOWS THAT THE MOST IMPORTANT VARIABLES FOR SCHOOL SUCCESS AND UPWARD MOBILITY ARE ATTITUDES TOWARD THE SELF AND THE ENVIRONMENT. HOWEVER, THE DATA ON THE INFLUENCE OF THESE ATTITUDES ARE NOT SO CLEAR AS ON OTHER FACTORS. RESEARCH ON TEACHER EDUCATION PROGRAMS POINTS TO THEIR FAILURE IN TEACHING THE SKILLS OF BEHAVIORAL ANALYSIS AND IN PROVIDING THE MEANS FOR UNDERSTANDING THE NATURE OF THE DISADVANTAGED CHILD. (NH)

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INFORMATION RETRIEVAL CENTER
ON THE DISADVANTAGED

Yeshiva University

Dr. Edmund W. Gordon, Director

The Status of Research Related
to the Education
of the Disadvantaged
↑
title

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I have been asked to brief you relative to the status of research related to the education of the disadvantaged. The committee which has planned this conference asked that I limit my report to that information which is clearly supported by research data and so definitely one sided, either positively or negatively, that the statements are incontrovertible.

If I were to take these instructions seriously, I could complete my report in about three minutes—research data and particularly the data of educational research are rarely that conclusive.

But since it is not often that I get a chance to speak, I will disregard those instructions and take advantage of this opportunity to talk about some of the leads which flow from research related to the disadvantaged as they have relevance for the preparation of school personnel.

In the available research literature on the education of disadvantaged children and youth we find a virtual cafeteria, with a wide variety of offerings. But as is true of most cafeterias, one finds it difficult to get a gourmet type or even substantive meal. The quality of research and depth of research information in any one of these categories is simply not outstanding.

This may be due, in part, to the fact that the problems of underdevelopment and educational handicaps in the disadvantaged have not been appropriately conceptualized. The great majority of investigators who have worked in this field have viewed the disadvantaged as a great homogeneous mass. Insufficient attention has been given to the wide variety of persons, conditions, problems and potential assets which are represented by this all too popular euphemism "the disadvantaged."

The term socially disadvantaged refers to a group of populations which differ from each other in a number of ways but have in common such characteristics as low economic status, low social status, low educational achievement, tenuous or no employment, limited participation in community organizations and limited ready potential for upward mobility. Various referred to as the "culturally deprived," the "socio-economically deprived," the "socially and culturally disadvantaged," the "chronically poor," the "poverty stricken," the "culturally alienated," and so on, these are people who are handicapped by depressed social and economic status and, in too many instances, are further handicapped by ethnic and cultural caste status. For a number of interrelated reasons, more and more of these families are coming to be concentrated in the decaying hearts of our great metropolitan centers. Predominantly Negro, Puerto Rican, Mexican, American Indian, southern rural or mountain white, these people are the bearers of cultural attitudes alien to those dominant in the broader community, and their children come to the school disadvantaged to the degree that their culture has failed to provide them with the experiences "normal" to the kinds of children the schools are used to teaching.

As a consequence, these children show in school disproportionately high rates of social maladjustment, behavioral disturbance,

physical disability, academic retardation and mental subnormality. Such problems are acute wherever they are found, but they have been exacerbated and brought to the focal point of public attention because of the recent increasing concentration of this population in the center city and because of increasing pressure on the school to maintain and insure the academic success of these children in the public school.

Approaching this population and the literature related to it as an educational challenge rather than as a political problem one is led to a three unit conceptual model for approaching the pedagogical tasks involved. The teaching-learning process for any learner involves:

1. The nature, quality and functional patterning of basic cognitive processes (sensation, perception, cognition, association, generalization, memory, thinking or problem solving, information processing).
2. The nature, quality and functional patterning of affective mechanisms (attitude, aspiration, motivation, involvement, receptor readiness and preference, set, temperament).
3. The nature, quality and functional patterning of achievement systems (skills mastery, content mastery, informational and behavioral repertoire).

Although the literature treats aspects of this model, what is missing is systematic attention to the three aspects or units in their dialectical relationship to each other.

- Some of these children have problems because their basic cognitive processes are defective or disordered.
- Some of these youngsters have major disturbances in affect or their affective behavior may be guided by the beat of another drummer.
- Some of these youngsters simply have deficiencies in the mastery of basic skills.
- Still others suffer from significant information gaps—certain content is not in their information pool.

But these developmental learning disturbances don't operate unilaterally. They interact, and interpenetrate and overlap. Additionally, temporal and sequential ordering and disordering combine to further complicate the picture. Thus, when we try to look at intelligence or personality or achievement factors—as is typical of much of the literature—we get findings that sound intelligent but are frequently unintelligible, or at least are close to being meaningless as guides to educational planning.

What does it mean when we say that we know a great deal about the intellectual status of disadvantaged children? It simply means that we know that children from socially disadvantaged backgrounds tend to make lower scores on standard tests of intelligence than do children from more privileged backgrounds. Since we know that these tests tend to correlate with success in school, those children with lower scores are likely to do poorly in school.

Much of the research in this area has been concerned with the determination of relationships between intelligence and socio-economic status or intelligence and ethnic status. (Clark and Clark, 1953; Deutsch and Brown, 1964; Dreger and Miller, 1960; Eells, 1953; Higgins and Sivers, 1958; Montague, 1964; Osborne, 1960.) Consistently these reports show higher income and higher social or ethnic status positively correlated with higher intellectual status. These relationships, however, are not viewed as permanent or irreversible as previously thought. Despite prominent stylistic differences in patterns of intellectual function observed in children of different ethnic and social groups (Lesser, 1967), Deutsch, 1963, noted that class differences in perceptual abilities decreased

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with age; Eells, 1953, writing in the context of his concern with the cultural bias of intelligence tests noted that children from deprived backgrounds often receive scores which are inaccurate reflections of their basic intelligence. The necessity for examining the subcultural values of the child tested has been pointed out by Levinson, 1961. Deutsch and Brown, 1964, found that the influence of race became increasingly manifest and crucial as social level increased. Pasamanick and Knobloch, 1955, noted that awareness of the examiner's skin color caused sufficient inhibition to result in decreased verbal responsiveness and thus poorer performance on language sections of intelligence tests. Intelligence level was described as a function of the amount of material available for learning and the types of learning which take place (McCandless, 1952). Some investigators have characterized the lower class child as weak in conceptual ability (Siller, 1957). In such academic areas as arithmetic concepts (Montague, 1964) and in perceptual ability (Deutsch, 1963), more psychomotor and behavioral disorders and greater reading disability were found in the deprived population than in more privileged groups by Pasamanick and Knobloch, 1958. The findings by Pasamanick and Knobloch which are based upon the study of relationships between income levels, health status and school adjustment, suggest a continuum of reproductive errors. The incidence of reproductive error or developmental defect occurs along a continuum in which the incidence of error is greatest in the population for which medical, nutritional and child care are poorest, and least where such care is best. Now this formulation, when applied to the question of possible social, class or racial difference in intelligence has led to the general feeling that racial IQ differences are a result of environmental deprivation rather than of inherent limited potential. In the definitive review of this problem, Klineberg, 1963, found no scientifically acceptable evidence for the view that ethnic groups differ in innate ability.

Hunt, 1961, has advanced and provided considerable support for the position that intelligence is not primarily a genetically determined phenomenon, but rather is a function which develops in and through the process of interaction with the environment. This position is reflected in much of the work on intellectual function in disadvantaged populations. Since many studies show differential function favoring more advantaged groups, much effort has been directed at establishing evidence of social experience determinants of these differences.

Considerable attention has been given to the nature of intelligence tests and the conditions under which such tests are administered. Earlier efforts at the development of culture-free tests of intelligence have been replaced by effort directed at the development of culture-fair tests, that is tests of intelligence which include items drawn from the cultural-experience background of a wider variety of subjects. This concern with culture-fair instruments, however, is best limited to studies in which comparisons between groups of subjects are the principal focus. In studies where concern is focused upon the extent to which individuals or groups approach the criterion measures standard in academic circles in this country, culture-fair tests tend to lose their predictive value. In this context, the standard tests of intelligence are more commonly and appropriately used. Deutsch, Fishman and others, 1964, have given extensive treatment to these issues in a volume on testing minority groups. Following an examination on some of the implications of our knowledge of the measurement of intelligence, Lesser and Stodolsky, 1967, have concluded: "Intelligence tests must now be thought of as samples of learning based on general experiences. A child's score may be thought of as an indication of the richness of the milieu in which he functions and the extent to which he has been able to profit from the milieu. In contradistinction, school-achievement tests assume deliberate instruction oriented to the outcomes measured in the tests." While we are able to state at any point in the child's career that he has achieved a certain level of intellectual or aca-

demic function, we are still unable to say much about the relationship between the two. Even worse, we are forced to ignore the intellectual processes and affective mechanisms which have permitted or precluded achievement.

There is then an extensive literature on differences in intelligence test performance between Negroes and whites, between whites and other minority groups, and between social classes. It is sufficient for our purposes simply to remind you that the findings consistently favor higher status groups whether that status is based on income or ethnic origin. However, the economic and class factors greatly contaminate these data making it extremely difficult to treat ethnic origin definitively. Two findings are of particular interest even if they are so far of little use. In minority group-white group comparisons on standard tests, whites consistently come out with higher scores except when compared to orientals who in several studies have earned scores equal to whites and who in a study of preschool functional level equaled whites on verbal material and excelled comparable white children on nonverbal tests. A second group of findings of interest involve comparisons by social class and ethnic group in laboratory learning situations.

In several studies involving laboratory learning or new-learning situations, we find a marked absence of differences in the quality of such learning task mastery between different economic or ethnic groups. The relationship between tested intelligence and performance on these new learning or laboratory learning tasks is high for upper status groups, but negligible for lower status groups. These findings suggest that the tests are reasonably adequate measures of quality of intellectual function in upper status children but poor measures of quality of intellectual potential in less privileged youngsters. When both groups are confronted with learning situations which are not heavily dependent upon richness of previous learning experience differences in achievement on these learning tasks are greatly reduced. Likewise, for youngsters who are exposed to standardized tests, which to a large extent duplicate performance tasks with which they have had some experience, correlations between performance in the two situations by youngsters to whom such experiences have been common are high. When youngsters who have been deprived of those "standard" experiences which tend to be tapped in our standardized tests are subjected to such test situations we see marked differences between their performance in such situations and their performance in new or laboratory-learning tasks.

There are several leads for further study provided in the data of these research findings. All need further study and much more intensive analysis. Nonetheless, they have provided the basis for much of the optimism that may be currently observed in our educational work with disadvantaged populations.

I have given very superficial coverage here to the wide literature on intelligence and achievement measures for disadvantaged children. But in-depth analysis is not needed to make the point. Available research in this area permits the description of certain measured levels of function in comparison to some reference group, but it does not permit us to understand the processes involved. Indeed, there is even some evidence to suggest that the descriptions of levels of function are misleading since they may be too narrowly drawn.

However, what is emerging from the careful analysis of this research is the clear impression that static measures of function or status are inadequate in dealing with disadvantaged children. What is needed is appraisal procedures which permit us to get at process-mechanism interactions for *it is out of process analysis and interactional studies that we get meaningful leads for intervention*. We will return to this point later when we talk about implications for the training of personnel.

It is interesting that although we have less research related to the affective development and behavior of the disadvantaged, the literature seems somewhat clearer. It may be the result of the fact that we have been forced to describe rather than quantify, and in the absence of precision or allegedly accurate measures we have been less prone to make predictions and take recalcitrant positions. Zigler, in discussing the triadic model for getting at the learning problems of the disadvantaged, has suggested that the affective area involving attitudes and motivations may not only be more plastic and amenable to modification than cognitive processes or achievement systems but the affective area may indeed be more crucial. He takes the position that shifts in quality of function may be more a function of attitude toward the task, motivation and task involvement than difference in cognitive function.

The literature on affective development indicates that many of the children with whom we are concerned show a marked lack of involvement with, attention to and concentration on the content of their academic experiences. There are few academic tasks which commit them to deep involvement. Their work habits are frequently insufficiently developed. Because of the high interest demands of nonacademic experiences and the relatively low interest demands of academic experiences, they are limited in their ability to inhibit responses to those stimuli which are extraneous to academic learning and to disinhibit responses which are pertinent to academic learning. Deutsch reported that lower class children tend to ignore difficult problems with a "so what" attitude and that as a result over a period of time their learning is decreased proportionately. Ausubel, 1964, found that lower class children depend more on external as opposed to internal control than do children from the middle class.

Moreover, socially disadvantaged children have been determined by several investigators to be less highly motivated and to have lower aspiration for academic and vocational achievement than do their middle and upper class school peers. The degree of motivation and the direction which it takes among many of these children are often inconsistent with both the demands and the goals of formal education. But although the quality of aspiration is often depressed, it is usually consistent with the child's perceptions of the opportunities and rewards available to him. Symbolic rewards and postponements of gratification appear to have little value as positive motivators of achievement. For these children goals tend to be self-centered, immediate and utilitarian, as are the goals of the dominant culture. However, children growing up under more privileged circumstances have available many sources of immediate satisfaction and immediate feed back as well as many more evidences of the utilitarian value of academic effort. The differences between the privileged and the disadvantaged in this area are not so much differences in values as differences in the circumstances under which the values are called into play. Although the values from which motivation is derived in the disadvantaged child seem to reflect the dominant culture concern with status, material possessions, ingroup morality, Judeo-Christian ethics, competition, etc., there is usually lacking a concern with the aesthetics of knowledge, symbolization as an art form, introspection and competition with one's self. In other words, dominant societal goals and values are operative but their direction and context may not be complementary to academic achievement.

Rosen, 1956, observing a relationship between high motivation and high grades, postulated that middle class children are more likely to be taught the motives and values which make achievement possible. Similarly, in Gould's study (1941) only sons who internalized their parents' values of aspiration were sufficiently motivated to overcome obstacles which faced them at school. Bernstein, 1960, found achievement strivings arising from parental demands for success to be a more central motiva-

tional factor among middle class than among lower class children.

Closely related to these motivational factors are attitudinal factors, and these too are often a source of problems in educational planning for disadvantaged children. Hieronymus, 1951, found that higher socio-economic status was correlated with a high level of aspiration and positive attitudes toward school while negative attitudes toward school and lower levels of aspirations were more frequently encountered in lower socio-economic status groups. Sewell's (1957) finding that educational aspirations tend to be greatly influenced by class values in a manner favoring the middle and upper classes is consistent with the earlier work. Among other characteristics which have been referred to in this population are utilitarian attitudes toward knowledge and negative attitudes toward the pursuit of knowledge. Many of these children and their parents view education primarily in terms of its job market value and their orientation is toward achieving the minimum level of education commensurate with employability. Carrol, 1945, sees the lower class ideal self as characterized by personal beauty and fame, not the moral and intellectual qualities which characterize the ideal self of middle class children.

As important as these attitudes toward school and learning may be, it is in the area of attitude toward self and others that the crucial determinants of achievement and upward mobility may lie, and it is in these areas that our data are least clear. It has been observed by some that disadvantaged children show affinity for in-group members and demonstrate a sense of distance from or even hostility toward representatives of out-groups, whether in peer or non-peer relationships. In contrast, other observers have noted the high degree of respect and awe in which these children hold selected out-group status persons or idealized models. Tendencies toward self-depreciation and depressed self-concepts have been noted by several observers (Dreger, 1960; Keller, 1963). Goff, 1954, found that lower class children have more feelings of inadequacy in school than do children from the middle class. On the other hand, some recent findings (Gordon, 1965) suggest that depressed self-concept is not so prevalent a condition, and that even where present it may have little negative bearing on achievement. In fact, it is entirely possible that positive or negative feelings of self-worth may operate respectively to depress or accelerate achievement. Furthermore, it is in this area that the rapidly changing national and world situations involving underdeveloped peoples are likely to be most influential, and it is difficult to predict the ultimate effect of these altered situations on self-perception and behavioral change. Our knowledge and even our researchable hunches are as yet limited. But it is around these changing situations that the school may yet find a fulcrum on which to lever up motivation, aspiration and involvement. There is growing empirical evidence to support the view that young people actively associated with the current civil rights struggle draw from their involvement in that effort a new source of motivation and an enhanced view of themselves (Coles, 1963). The impression is gained that such experiences are reflected in greater application of effort to and greater achievement in academic endeavors. The evidence for such improvement is less clear, yet there can be little doubt that attitudes toward self and toward the environment in relation to self are crucial variables in academic as well as in social and emotional learning situations. In fact, one of the strongest findings coming out of the Coleman data indicates that attitudes of environmental control exercise a powerful influence on academic achievement second only to family background.

There are other categories of research information which deserve some attention in this overview but time will not permit me to develop them. I prefer to use the time which remains to discuss the relevance to the teaching-learning process of some of the information which is available.

I have pointed earlier to the fact that our knowledge of the dis-

advantaged is nonspecific. We have identified some behavior trends or conditions which are frequently encountered in this population, but since we do not know in what combinations they exist in individual children or the nature of the interaction between these several aspects of behavior, it is difficult to translate this knowledge into meaningful planning for educational intervention.

Klopf and Bowman, 1966, report as a salient finding that while the majority of [training program] directors placed both "understanding the life conditions of disadvantaged groups" and "development of instructional skills, techniques and materials" among their key objectives, they seemed better prepared to teach "understandings" than "skills." This is very interesting since education has been accused of being strong on the techniques end and weak on the understandings and knowledge end. The fact is as we look at the content of many of these programs of teacher preparation we see that we have not only *not* developed new techniques, skills and materials, we also *have not* taught much understanding. I submit that there is a difference between learning what these children look like, how they behave, what their home conditions are like, what to anticipate in their behavior or what their group intellectual or social characteristics are, and learning what these conditions and circumstances mean to the individual child and for his functioning in the teaching-learning situation. I have not seen or read of a program which is preparing teachers to perform on that level, for that quality of understanding requires skill in behavioral observation and behavioral analysis. It requires competence in the qualitative appraisal of the behavior and functioning of the child under a variety of stimulus situations. It is from this kind of understanding that appropriate techniques, materials and instructional skills will have to be developed. We have probably been unable to teach these techniques and skills because we have not yet developed the appropriate understandings. The available research reflects this failure. Having reviewed that research literature extensively, I cannot tell you what ought to go into the curriculum of disadvantaged children or how that curriculum should be organized or presented. I can only tell you that a great deal more is going on with these children than we understand and the most important thing we can teach our teachers is how to go about finding out.

From the Coleman, 1966, report we learn that school and teacher factors account for little of the difference in academic achievement between children. We are told that family background factors emerge large. Now Pettigrew in the Civil Rights Commission Report has made much of this and has turned this finding to support the equally important struggle for racial desegregation and integration of schools. On reanalysis of the Coleman data, Pettigrew shows that for older students it is not the background of the individual child but the social class and home background of the school population which is important. Children from poor backgrounds do better in schools where most children come from more privileged homes. He argues that since the Negro middle class is small, we will have to integrate the schools in order to provide a proper social class mix for large numbers of children. But let's not lose the point of this reference! Could it be that Coleman found school and teacher variables to be of low level significance because there is not much variation in what schools offer and teachers do along the dimensions that he studied? Maybe differences between classes with 28 and classes with 35 children are not significant. But does that mean that there is no difference between teaching ten and teaching 50 children? Maybe teaching as a profession has not reached the point where the teacher is skilled enough to develop sufficient understanding of her pupils to plan learning experiences that outweigh home influences. If teachers are not that good and school techniques and materials have not yet been sufficiently developed, Coleman's

statistical techniques cannot make teacher and school variables significant. But that does *not* mean that it cannot be done by those of us who train teachers and design schools' programs.

There was a time when farmers used to spread manure to fertilize their crops. Some crops flourished, others barely survived and still others died before we learned that there is no universal fertilizer. Slowly we learned to do qualitative analyses of soil conditions, of plant requirements and to develop chemical compounds which were designed to match the specific requirements of specific crops growing under specific conditions. We even learned which chemicals had to be put into the soil at what time before or during the life of the plant. Agricultural research has reached a level of high sophistication and successful farming has become a science.

There may be aspects of education which will forever be artistic, but we teacher educators have the responsibility to begin to make our future teachers artists who are also scientists.

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ADMINISTRATIVE COMMITMENT

Supplementary Statement

Mr. Hanford A. Salmon

A disturbing but consistent thread has run through this conference. Beginning with Dr. Jablonsky's paper and concluding with some of the comments at the last general meeting, we heard repeatedly of the need to make teacher education more practical, more skill-and technique-oriented, and more under the control of practitioners. I emphasized this point myself.

I urgently hope that teacher training institutions will not read more into these comments than the situation demands. In our zeal to make teaching more productive, it is possible for us to be lured back into the normal school approach to teacher education. We have even heard suggestions that on-the-job training ought to replace more formal types of teacher education. I can think of nothing that would be more tragic.

It is well established that behavioral science must be based in a theoretical perspective and have its own well-developed body of knowledge and literature. No field of human endeavor needs more seriously than education to consider its theoretical frame of reference, its philosophical orientation, and the translation of these two elements into action. This requires an objective overview which can be provided only by someone looking from the outside in. The theoretician, the researcher, the philosopher, and the professor have vital roles to play in the teacher education process and in evaluation of public education. It would be a travesty of the first order to turn teacher education over to practitioners.

One thing reiterated in this conference many times is the need for cooperative working relationships between the public schools and the universities. Herein lies the key to better education in general, not just the education of the disadvantaged. If problems of educating the disadvantaged are actually overt expressions of problems that beset all of education, and I believe this is eminently true, then the marriage between the public schools and the universities poses the best course of action for all teacher education. I would plead, however, that the cooperative relationship which develops continue to maintain the valuable contributions of the researcher and the theoretician while, at the same time, eliminating the lack of practical knowledge which weakens the present teacher education process. Public schools must have available to them people who will ask the question, "Why did you do that?" This question is rarely asked by the practitioner.

It seems possible that a conclusion which could grow out of the conference is that teacher education should move back to a more practical, pedagogical, normal school type of education, focusing on the "nuts and bolts" which will get beginning teachers through the first and critical year of teaching. I would plead that any movement in this direction be weighed against the longer lasting value of providing theoretical and philosophical bases on which teachers can build a lifelong career. Both can be accomplished if the curriculum receives careful and serious re-evaluation. Public schools and universities working together will accomplish this far better than either could do it alone.

Mr. Salmon submitted this paper after the conference in response to the invitation which was available to all participants.